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Two independent pilot studies in Britain investigated the effect of the Initial Teaching Alphabet (i.t.a.) on the creative expression and verbal skills in written composition of young children. The Staffordshire study compared a normal week's free compositions written by 54 children using the traditional alphabet with the compositions of a similar group of children who used the i.t.a. Verbal characteristics compared were word-count, size of vocabulary, and frequency of repetition. The Dundee study concentrated on comparisons of quality and mechanical aspects in compositions assigned to 27 pupils using the i.t.a. and to 27 pupils using traditional orthography. Results of both studies showed superior writing by the i.t.a. pupils and indicated that while traditional orthography inhibits a child's approach to free composition, the Initial Teaching Alphabet fosters early creative writing. (JM)

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A Review for Teachers and all concerned with Progress in Education

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THE EFFECTS OF THE INITIAL TEACHING ALPHABET (i.t.a.) ON YOUNG CHILDREN'S WRITTEN COMPOSITION

JOHN DOWNING, THOMAS FYFE and MICHAEL LYON[1]

Two independent investigations of the effect of the Initial Teaching Alphabet (i.t.a.) on the written composition of young children have recently been completed. They are both in the nature of preliminary or pilot studies but they do represent the first objective data on this question, and may provide some empirical basis for on-going discussions on this issue although, of course, their obvious limitations mean that their results must be regarded with caution. Indeed, we publish them now chiefly in the hope that they may inspire further inquiry to produce more conclusive findings. The first study was conducted by the Reading Research Unit in schools in Staffordshire[2] and the second was carried out independently by Fyfe (1965) in schools at Dundee in Scotland.

Before examining these two empirical investigations we may consider why it should be thought that i.t.a. should influence children's composition-writing. In Britain, at the beginning stage in our infant classes, teachers generally give priority to creative writing as a mode of free expression, while handwriting and spelling are not considered to be so important. Certainly it seems to be generally accepted that a concern for handwriting and spelling ought not to be allowed to discourage children's first efforts at composition.

Although the teachers may avoid placing too much emphasis on spelling at this early stage, nevertheless the children may develop attitudes through their experiences in reading and writing the complex and irregular spelling system of the traditional orthography (t.o.) of English. For example, whether or not the teacher can read what the child has written has been shown to be an important motivating factor in Vikainen's (1965) recent study. One may hypothesize that less understanding of the spelling system and therefore more confusion is likely to develop when t.o. is the system used for beginning reading and writing. Conversely a simplified and regularized writing-system for English (such as i.t.a.) may produce greater understanding of the task of writing down the language and hence greater confidence in attacking new words. Certainly Peters' (1966) recent study of the t.o. spelling of children taught through i.t.a. and t.o. shows dramatic differences in their word attack in spelling. She found, for instance, that i.t.a. pupils' t.o. spelling errors were due more often to the substitution of reasonable phonic alternatives, whereas t.o. pupils made significantly more unclassified errors, mistakes due to perseveration, and other errors suggesting faulty auditory perception.

A more exhaustive account of the irregularities and redundancies of t.o. from the point of view of the teaching and learning of *reading* has been provided elsewhere (e.g. Downing, 1964). The task of writing in composition is more difficult than that of reading, because reproduction of the symbols for sounds or words is required rather than recognition. Teachers provide many aids for children in their early attempts at creative writing, e.g. picture dictionaries, individual word books, etc., but the real breakthrough comes when the child is able to recall the spelling of many words and can manipulate the alphabetic spelling system well enough to put down on paper his ideas as they are developed with the assurance that these will be successfully conveyed to the

[1] Special thanks are due to Brian Lewis for critically commenting on an earlier draft of this paper, and for conducting the special chi-square analysis required for Experiment 1.

[2] The term Staffordshire is a general one and the schools referred to were under the following Local Authorities: Stoke-on-Trent, Burton-on-Trent, and Staffordshire.

teacher, parents, or to others reading his written symbols.

It seems probable that experiences in reading the irregular and complex writing-system of t.o. are an important inhibiting factor in the development of children's skills in creative writing. If a child relies only on whole words available to him through previous experience of them, picture dictionaries, asking the teacher, etc. the vocabulary he can use in writing is limited. Once he is able to write words by coding the forty or so phonemic units of English, then his whole spoken vocabulary is available for self-expression in writing. It is the learning of this coding skill which seems likely to be inhibited by experience with t.o.

For instance, according to Edwards and Gibbon (1964), the words 'I', 'my', 'night', and 'like' are among the sixty most popular words in the writing of 5-year-olds. But, although these four words all contain the same vowel-sound it is spelt differently in each word. This phoneme occurs in over forty of the words in the complete list of words written by children of this age, and four more different spellings for the common vowel-sound occur in them, i.e. 'buy', 'climb', 'eye' and 'die'.

In a simplified writing-system, this phoneme could be printed and written always with the same symbol. In i.t.a., for example, these words would be printed ie, mie, niet, liek, bie, cliem, ie, die. In this way the beginner's reading experiences should provide consistent sound-symbol relationships which should logically be more conducive to *understanding* the writing-system and developing confidence in using it.

The Staffordshire study

(*a*) *Aims and Methods*

The first of these two studies to compare the compositions of children using i.t.a. with those of children using t.o. was conducted in Staffordshire. The writing studied was writing in which the children chose their own words and which had been variously termed 'free', 'expressive', 'creative' writing or composition. Although distinctions have been drawn between these terms, many teachers tend to use then synonymously.

On the other hand, variations in the meanings which teachers assign to 'free', 'expressive' or 'creative' writing may be noted in terms of actual classroom practices. Nevertheless, there appears to be general agreement on two points: firstly, that spelling, letter formation and grammar are relatively unimportant, and secondly that the teacher's function is relatively non-directive. It is in this sense that the term 'free-writing' was taken in the Staffordshire study.

Free-writing is freely composed under 'normal classroom conditions' and has the advantage that it is representative, i.e. indicative of what infants normally produce, and of their normal output. But there are some limitations which must be mentioned here.

Firstly, in this pilot study in Staffordshire, no attempt was made to study the pedagogic correctness of grammar or spelling, or the neatness of the children's handwriting.

Secondly, the amount of help given to the beginning writer is of necessity uncontrolled. It is an almost universal rule that the teacher does not initiate the words the child uses, though the words may of course be taken from wall-charts, the blackboard or from another child, and may be spelt with the aid of a book, the teacher or the writer's own hand-written dictionary. These forms of vocabulary-support vary enormously between teachers and schools, and the free-writing samples which have been studied are the end product of all these uncontrolled processes.

Subjective qualitative judgments about the writing were not used in the Staffordshire study, although it was such impressions which originally led to this study being initiated; for example, Southgate's (1963) comment that free writing in i.t.a. 'appeared more spontaneous, prolific, and correctly spelt than is usual'.

Three analytical measures—word-count, size of vocabulary and frequency of repetition—were used. The first of these measures needs little explanation; it is sufficient to note that up to about age seven, the production of a greater quantity of writing is taken to be indicative of greater facility (something which may not apply to writing at a later stage). Size of vocabulary was defined as the number of words which remained when repetition had been removed, i.e. the number of different words used. Lastly,

'advanced' words were studied by eliminating the 250 most popular words as determined by the free-writing vocabulary study of Edwards and Gibbon.

A sample of a normal week's written work was taken from a sample of 54 children in i.t.a. classes and 54 in t.o. classes in nine Staffordshire schools. The children were all in their seventh term[1] (note: three terms in the school year). The schools were matched according to the size of intake and the geographical area.

The 54 children using i.t.a. and 54 children using t.o. from these nine Staffordshire schools represented a cross-section of abilities and satisfactory matching was achieved in terms of their scores on Raven's (1949) Coloured Progressive Matrices, age, sex, and social class (in terms of fathers' occupations). For example, the mean score on Raven's Coloured Progressive Matrices was 20.52 for the t.o. group and 19.87 for the i.t.a. group. One week's normal work done in the first half of the 1964 summer term was chosen as the composition material for analysis. To ensure that it was one week's *normal* work and not prepared by the teacher in any special way, it was either left to the headteacher to collect it without warning at the end of any one week, or, in the case of dated books, to send in the whole half-term's work, leaving the experimenters to pick a week at random. The number of samples collected for i.t.a. and t.o. writers was almost identical, equalling 195 for the t.o. group and 205 for the i.t.a. group.

(*b*) *Results*

For each of the 108 children studied, a total word-count was obtained. This total was then broken down to yield a 'net' vocabulary size (consisting of the total number of *different* words used) plus repetitions. Since the children made extensive use of the basic vocabulary determined by Edwards and Gibbon, the 250 most popular words on their list were discounted to show how many 'more advanced' words remained. This meant that for each child a 2 × 2 contingency table was compiled to show (a) net basic vocabulary, (b) repetitions of basic vocabulary words, (c) net 'more advanced' vocabulary, and (d) repetitions of more advanced vocabulary words.

A study of the heterogeneity of individual results was carried out, using a statistical method adapted from Snedecor (1956) and Cochran (1954). This procedure justified averaging over individuals *within* schools, but not over *sets* of schools—because the t.o. and i.t.a. schools all differed significantly among themselves ($p<.001$ in both cases, using a variant of Cochran's strengthened chi-square test).

In the case of the t.o. group, five schools were used (involving 15, 8, 10, 14 and 7 children). In the case of the i.t.a. group, four schools were used (involving 15, 15, 8 and 16 children). These discrepancies were necessary in order to satisfy the matching criteria mentioned earlier. But the statistical analysis showed that school differences were too large to be discounted. Instead of pooling the results of the two sets of schools, Table 1 therefore shows the *mean* performance per child for each of the nine schools in question.

The data in Table 1 are fairly self-explanatory. In School 1, for example, the total word-count per child averages out at 196.9. The average net vocabulary (i.e. the total of *different* words used) is 90.2 words, of which 57.9 are 'basic' and 32.3 are 'more advanced'. The average number of repetitions of basic words and more advanced words is, respectively, 98.9 and 7.8.

By inspection, it can be seen that the t.o. schools are considerably more heterogeneous than the i.t.a. schools. After allowing for this, however, it remains true that there is a clear tendency for i.t.a. to give superior results. Even if *all* the t.o. schools were up to the standard of the best t.o. school in the set (School 1), the i.t.a. schools would still be significantly better with respect to overall word-count and total incidence of 'more advanced' words. Significance tests do not add much to the picture set out in Table 1. But an adaptation of Cochran's strengthened chi-square test shows i.t.a. to be significantly better ($p<.001$) than t.o. on all the measures discussed.

It is, of course, an open question whether these differences are due to uncontrolled factors. It was noticeable, for example, that different schools submitted writings with different recurring

[1] *Age Range*
i.t.a. group: 7 yrs. to 7 yrs. 9 mths.
t.o. group: 6 yrs. 9 mths. to 7 yrs. 9 mths.

themes (visits to zoo, visits to sea, etc.). Presumably some themes give rise to higher word-counts and to larger numbers of 'advanced' words than do others. All that can be said on this score is that a subjective examination of the writing samples did *not* give the impression that the i.t.a. schools were advantageously placed. The overall impression (supported by syntactic analyses and analyses of content which are still in progress) is that the i.t.a. children were genuinely superior in their written composition work. A representative selection of i.t.a. composition work is reproduced in *Examples of Children's Creative Writing from Schools Using i.t.a.* (1964).

Table I

t.o. Schools			
SCHOOL 1		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	57·9	98·9	156·8
More Advanced	32·3	7·8	40·1
Total	90·2	106·7	196·9
SCHOOL 2		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	39·6	51·3	90·9
More Advanced	17·1	5·1	22·2
Total	56·7	56·4	113·1
SCHOOL 3		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	25·4	26·1	51·5
More Advanced	8·3	2·4	10·7
Total	33·7	28·5	62·2
SCHOOL 4		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	57·1	102·9	160·0
More Advanced	24·9	11·1	36·0
Total	82·0	114·0	196·0
SCHOOL 5		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	28·7	36·7	65·4
More Advanced	8·3	3·7	12·0
Total	37·0	40·4	77·4

i.t.a. Schools			
SCHOOL 6		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	67·4	139·3	206·7
More Advanced	29·9	10·3	40·2
Total	97·3	149·6	246·9
SCHOOL 7		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	53·1	118·3	171·4
More Advanced	30·2	11·6	41·8
Total	83·3	129·9	213·2
SCHOOL 8		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	63·6	151·1	214·7
More Advanced	33·3	14·2	47·5
Total	96·9	165·3	262·2
SCHOOL 9		Vocabulary	
Type of Word	*Net*	*Repetitions*	*Total*
'Basic'	58·9	113·3	172·2
More Advanced	28·1	6·4	34·5
Total	87·0	119·7	206·7

The Dundee study

Method

The method used by Fyfe (1965) in his study of i.t.a. and t.o. compositions at Dundee was different. In particular the method of obtaining the composition material for analysis was more controlled but perhaps less representative of the general 'run-of-the-mill' composition work of his subjects. To standardize procedure rigorously, a picture entitled 'A Rainy Day' was presented to the children in small groups. The picture was selected as a suitable stimulus in that it provided plenty of details. Also, it was seasonal (the testing being done in November and early December). Furthermore, this picture was general enough to prevent any unfair advantage to a child with a special interest. Nor did it seem likely to discriminate in terms of interest between boys and girls.

The picture was placed on the wall and the children were asked to come out and look at it. The experimenter instructed the children to

'Look at the picture quietly for a minute'. After a minute, he said, 'When you go back to your seats, I want you to pretend you have a friend, who can't see the picture. You are to tell him all about it on your paper. Write as much as you can. Remember your friend can't see the picture, so tell him everything. If you want to, you can come out and look at the picture while you are writing'. If, after two minutes, the children showed no signs of coming out to look at the picture, the experimenter again said, 'If you want to, you can come out and look at the picture while you are writing'.

After twenty-five minutes the experimenter said, 'If you have finished, you can draw on the back of your paper. That is *only* if you have written as much as you can.' Those who were still writing were allowed as much time as they wanted to finish their compositions. (It was found, that in some cases the children wrote for as long as forty-five minutes.)

No talking was allowed, and the experimenter did not help the children in any way (e.g. the spelling of difficult words).

Two methods of studying the resulting compositions were used. The first was concerned with quality, using one measure—a 'general impression' method. The second was an analytic approach, using nine measures designed to investigate a number of aspects of the material.

Measures Used

1. 'General Impression' of quality
2. Number of words written
3. Number of different words written
4. Average length of sentence (in the number of words)
5. A vocabulary count
6. Vocabulary count per every ten different words
7. Percentage subordinate clauses
8. Number of different types of subordinate clause
9. Number of different adverbs, adjectives and adverbial phrases
10. Number of different adverbs, etc. per every ten different words

The 'General Impression' method of judging quality of the compositions (Measure 1) consisted of asking nine independent judges to assign one of five ranks, A,B,C,D,E, to the compositions. The judges were provided with the following guide to the rating scale:

(A) Well-described atmosphere, e.g. weather, crowds, i.e. a general picture

(B) Description of atmosphere, not as comprehensive as (A)

(C) More than one comment about the weather, plus the sort of description in (D)

(D) Enumeration with description (e.g. people's clothes)

(E) Mere enumeration of what is in the picture, i.e. tendency to write 'there is, there are', etc.

By giving this guide to standards, the method became in fact, not a pure general impression method, but rather a 'guided' general impression method. The ranks were given in this form to give the markers similar criteria for judgment.

The judges were three primary teachers, and six secondary teachers of English. They were asked to read each composition once, and immediately to assign the rank A,B,C,D or E to it, according to the guide given to them.

Handwriting and spelling were not taken into consideration. The judges were not given the original scripts, but rewritten versions, all the scripts being in the same handwriting with spelling errors eliminated. Thus two possible sources of 'halo' effects (spelling and handwriting) were eliminated. Also, all scripts were rewritten in t.o. so that the judges had no idea from which group (i.t.a. or t.o.) the compositions originated.

The measures 2 to 5 above follow Burt's (1947) suggestions that the amount written, the length of sentence and the size of vocabulary are good indications of composition ability. To facilitate a more detailed comparison, the other measures have been added—the percentage of subordinate clauses and the number of different subordinate clauses, as a measure of the child's ability to handle more complex sentences, and the number of adverbs, etc., as a measure of the interest of the composition.

It was found that the children in the i.t.a. group tended to write longer compositions, and since the size of the vocabulary and adverbs, adjectives and adverbial phrases scores might be influenced

by this, it was decided to bring in measures 6 and 10 to eliminate the effect of length of measures 5 and 9.

The *vocabulary count* (measure 5) is based on the 491 most common words in the speech of 5-year-old children, as compiled in *Studies in Reading* (1948). A similar list for 7-year-old Scottish children was not available. The method used, was to give a point for each word in the composition and not on the list. This would give higher scores than if a similar list for 7-year-olds had been used, but the object here is only to compare i.t.a. with t.o. groups on the same basis.

The *vocabulary count per every ten different words* (measure 6) was obtained in the following way. Suppose a child has a vocabulary count of 25 words and has written 100 different words, then his score would be 2.5.

The *percentage of subordinate clauses* (measure 7) was obtained by counting the number of clauses and simple sentences written by each child. The number of subordinate clauses was then expressed as a percentage of this number.

Fyfe's Dundee sample was smaller than that used in the Staffordshire study and it was limited in other ways, too. The subjects in the experimental (i.t.a.) group were 27 pupils (18 girls and 9 boys) in their third year at the Dundee College of Education's Demonstration School. All of these children had originally been introduced to reading and writing in i.t.a.

The Dundee Demonstration School tends to draw children from homes in the higher levels of social class. The 27 subjects forming the experimental (i.t.a.) group were found to be in the following categories of the Registrar-General's classification of fathers' occupations: Class I, 3; Class II, 13; Class III, 9; Class IV, 0; Class V, 2. To match the control (t.o.) group on this variable pupils had to be selected from four classes in three other schools in Dundee. This matching was done rather precisely, the only difference being that the t.o. group had one pupil in Class IV instead of Class V.

The two groups were also successfully matched on their scores on Raven's (1949) Matrices, size of family, and membership of the public library.

On age, however, Fyfe's groups were *not* successfully matched; as the i.t.a. group contained significantly more younger children (see Table 2).

Table 2

Age of Pupils in i.t.a. and t.o. Groups

Age	*under* 7:1	7:1–7:4	7:5 *and above*	*Mean Age*
i.t.a.	11	5	11	7:2
t.o.	2	16	9	7:4

Results

The general impression (measure 1). The nine independent judges graded the compositions as indicated in Table 3.

Table 3

Grades given to i.t.a. and t.o. Compositions by Nine Independent Judges

Grade		*Judge*								
		1	2	3	4	5	6	7	8	9
A	i.t.a.	2	3	2	2	2	1	–	1	5
	t.o.	–	–	–	–	–	–	–	–	–
B	i.t.a	6	8	8	3	4	5	7	6	7
	t.o.	–	1	–	–	–	–	–	–	1
C	i.t.a.	4	10	7	10	10	8	5	5	5
	t.o.	1	6	6	2	2	4	1	2	11
D	i.t.a.	11	3	6	4	8	8	11	12	6
	t.o.	8	8	7	9	7	11	11	8	8
E	i.t.a.	4	3	4	8	3	5	4	3	4
	t.o.	18	12	14	16	18	12	15	17	7

It is obvious from the data provided that all judges awarded significantly higher grades to compositions written by the i.t.a. group. It should be remembered that the judges worked independently and 'blindly' (i.e. they did not know whether the children had begun with i.t.a. or t.o.). Kendall's Coefficient of Concordance was computed in respect of the rankings of the i.t.a. compositions for all nine judges collectively. A further coefficient of concordance was computed in respect of their rankings for the t.o. compositions. The first of these gave a value of .60 and the second a value of .88. These coefficients both exceed 1 per cent. level of significance.

In addition, the Kolmogorov-Smirnov test was applied to each pair of rankings for each judge and in every case the distribution differed at the 5 per cent. level of significance or more. It follows that there is a high degree of unanimity among the judges in giving i.t.a. children higher ranks than t.o. children.

The analytic measures (2 to 10). The results of the other nine measures referred to earlier are summarized in Table 4, which shows that the i.t.a. group was significantly superior on seven of the analytic measures used.[1,2]

Table 4

Summary of Comparison between i.t.a. and t.o. Groups on Ten Measures of Composition Attainment

	Measure	*Superior Group*	*Level of Significance*
2	Number of words	i.t.a.	1 per cent.
3	Number of different words	i.t.a.	1 per cent.
4	Average length of sentence	i.t.a.	5 per cent.
5	Vocabulary count	i.t.a.	1 per cent.
6	Vocabulary (per ten words)	i.t.a.	1 per cent.
7	Percentage of clauses	Neither	N.S.
8	Number of different clauses	Neither	N.S.
9	Adjectives and adverbs	i.t.a.	1 per cent.
10	Adjectives and adverbs (per ten words)	i.t.a.	1 per cent.

Discussion

The Staffordshire study indicates a definite difference in some characteristics of young children's 'free-writing' depending upon which writing-system had been used in the child's early schooling.

The children who had begun reading and writing with i.t.a. were superior to those who had begun with t.o.: by 51 per cent. in *amount* of writing produced; by 45 per cent. in *breadth* of vocabulary used; by 56 per cent. in the breadth of the '*advanced*' vocabulary used; and this superiority was found in children at all levels of attainment.

It is particularly interesting that the increase in the use of words does not appear to be confined to those words which are more simplified in spelling through transliteration into i.t.a. This suggests that the wider vocabulary found in the i.t.a. group may be due to some more general effect of the use of the i.t.a. writing-system.

In the Dundee study, on the impressionistic qualitative approach, the judges showed that they considered the i.t.a. group's compositions were better than those from the t.o. group despite the fact that none of the judges had any idea as to which group the children belonged. Thus the i.t.a. group appear to have written compositions of higher quality than those in the t.o. group. As regards the number of words written, the vocabulary score and the number of adverbs and adjectives, the i.t.a. group is also significantly superior. [In both the Dundee and the Staffordshire studies the improvement in written vocabulary appears to affect children at all levels and not to be confined to, for example, those of superior ability. Southgate's (1963) observation that free-writing in i.t.a. 'appeared more prolific . . . than is usual' seems therefore to be supported. It should be pointed out that, with the exception of two children who had not been transferred to t.o. at the time of the Dundee study, the members of the i.t.a. group wrote their compositions almost entirely in t.o.]

The i.t.a. group appear to have written more interesting sentences. The t.o. group had a far greater number of stereotyped sentences of the type, 'There is a man', 'There is a boy in a green coat', than the children in the i.t.a. group.

The complexity of the i.t.a. group's sentences can also be seen in the clear superiority shown by that group, in the average length of sentence, the number of adjectives, adverbs per every ten words, and the vocabulary ratio per every ten words.

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[1] Chi-square calculations and contingency tables are reported in Fyfe's thesis.

[2] Fyfe was able to obtain further samples of composition of 32 children from the experiment. The conditions under which they were written were different. In particular these further samples were written under a time limit. They were evaluated on three measures: number of words written, average length of sentence, and the percentage of subordinate clauses. Correlations (Spearman's r) between the analyses of these further samples and the analyses of the compositions obtained in the experiment reported above were .7, .75 and .25 for the three measures respectively.

Although the i.t.a. group were better than the t.o. group in their use of clauses, the difference was not statistically significant. Thus the Dundee study shows that compositions from the i.t.a. group were generally superior to those from the t.o. group despite the fact that the i.t.a. group were significantly younger than the t.o. group. However, a special problem exists in the Dundee study which makes it difficult to draw conclusions. The atmosphere in the Dundee Demonstration School from which the i.t.a. group was drawn, would be held by many to be much freer by its very nature, than that of an ordinary school. In addition, there is the likelihood that a Demonstration School attached to a College of Education with its concern to study innovations (i.t.a. being a particular example) may imply a fresher attitude to teaching on the part of the staff, compared with the attitude of teachers in an ordinary school. Thus, although the groups were matched for ability and background, the special climate of the Demonstration School may have been less inhibiting for pupils and thus, in any case, inducive to the production of better compositions. It must also be recognized that the i.t.a. group in Dundee were, in their first two years, the subjects of an experiment (i.e. the introduction of i.t.a. to Scotland), whereas the control group were not; hence, there may have been some Hawthorne Effect.

Both the Staffordshire and the Dundee studies of the effects of i.t.a. and t.o. on young children's compositions have obvious limitations. Nevertheless, in the absence of more adequate research, their results provide the first objective evidence on this controversial issue. The mutually supporting findings of these two independent investigations seem to lend some objective support to the view that young children's experiences of t.o. inhibit their approach to free composition, and that a simplified and regularized writing-system such as i.t.a. should improve creative writing in the beginning stages.

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